PATENT SPECIFICATION

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438,830

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COMPLETE SPECIFICATION

Improvements in or relating to Electric Incandescent Lamps for Vehicle Illumination

We, N. V. PHILIPS' GLOEILAMPENFABRIEKEN, a limited liability Company, organised and established under the laws of the Kingdom of the Netherlands, having our seat and Office at Emmasingel, Eindhoven, Province of North-Brabant, Kingdom of the Netherlands, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to illumination means for motor vehicles comprising projectors and multi-filament lamps.

Different types of multi-filament lamps are already known. In one form, one of the filaments is partly or wholly screened by a screen of metal or glass but such a screen complicates the construction of the lamp. In another form there are arranged in the lamp two V-shaped filaments arranged in parallel planes. Such lamps only yield slightly favourable results when associated with a corrugated front disc for the reflector the glare being otherwise too intense. The disc is preferably provided with prism-like corrugations, which are normal, to each other. These prisms refract the light as intensively as possible into the desired directions. In these lamps the arrangement of the filaments relatively to the reflector is such that the one filament projects jointly with the reflector a main light beam at a large distance ahead of the car, whereas the other filament projects a secondary light beam the so-called dimmed light at a small distance ahead of the car. The shape and light distribution of the two light beams has, however, certain disadvantages, as will be seen from the description which follows.

It has also been proposed to arrange two V-shaped main filaments in one plane and an auxiliary filament in the plane normal to the first. This arrangement, however, does not give the desired light emission in relation to a bright centre in the cross-section of the main light beam, whereas it is possible that the dimmed light beam produces glare.

In general all the multi-filament lamps with a horizontal main filament and/or vertical auxiliary filaments show these disadvantages in the light emission.

Fig. 1 is a sectional view of the secondary light beam of a lamp with two parallel V-shaped filaments taken normally to the road. It is found that an excessive quantity of light A is emitted in directions above the horizontal plane that passes through the filament, said light dazzling the motorist coming from the opposite direction.

In addition, the main light beam has in the same cross-section (Fig. 2) a troublesome elongated spot B of high luminous intensity which during driving continuously swings to and fro ahead of the driver.

Figs. 3 and 4 are a side and a front elevation of the well-known lamp that emits these light beams and that comprises two V-shaped filaments G located in parallel planes. In Fig. 4 the filaments are shown in the position which they take up when inserted in the reflector.

According to the invention, use is made of incandescent lamps comprising main and auxiliary filaments normal to each other, such as shown in Figs. 5 and 6, the relative position of the filaments being such that when the lamp is arranged in the working position in the projector the main filament is normal to the road and the auxiliary filament lies parallel to the road at some distance above the horizontal meridian plane of the bulb.

The lamp is further distinguished by the feature that each filament is stretched in a straight line and that the filaments are arranged relative to each other, in the form of a T, the horizontal limb of the T being inclined to the lamp axis. The vertical limb is preferably caused to lie in an axial plane of the lamp and thus, in the case of normal caps, in the plane that passes through the lamp axis and the studs of the bayonet or Swan cap. When the reflector of the projector has a pronounced focus, the vertical limb of the T is arranged in such a manner that the focus is caused to be located in it.

Lamps according to the invention per-

nit of obtaining a secondary light beam having a cross section as shown in Fig. 7 which consequently has no glaring rays above the horizontal plane I-I and, moreover, extends more to the sides. The shape of the cross section is therefore essentially improved.

The same remark applies to the light beam produced by means of the main filament H and shown in Fig. 8. It is true that a slightly brighter spot B' in the cross section shown in Fig. 8 is obtained but this spot is much more localised and is thus less troublesome.

It is preferable to arrange the lamp according to the invention in a reflector which is associated with a front disc with vertical corrugations or prisms to get a deviation of the light rays in sideward directions for lighting the sides of the road.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. An illumination projector device for a vehicle comprising a multi-filament incandescent lamp having filaments arranged normally to each other, wherein the relative position of the filaments is such that when the lamp is arranged in the working position in the projector the main filament is normal to the road and the auxiliary filament lies parallel to the road at some distance above the horizontal meridian plane of the bulb.

2. An electric incandescent lamp as claimed in claim 1 comprising two filaments having a straight axis and arranged normal to each other, wherein the two filaments are arranged in the lamp in the form of a T, the horizontal limb of the T being inclined to the lamp axis.

3. A projector having a front disc which is provided with prism-like corrugations normal to each other and containing an incandescent lamp as claimed in claim 2.

4. The electric illumination means substantially as described.

5. Electric incandescent lamps substantially as described with reference to Figs. 5 and 6 of the accompanying drawing.

Dated this 13th day of December, 1934.

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Agents for the Applicants.

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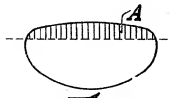

Fig. 1.

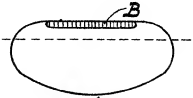

Fig. 2.

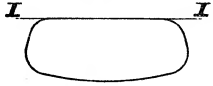

Fig. 7.

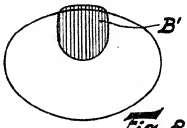

Fig. 8.

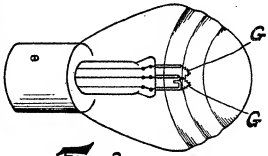

Fig. 3.

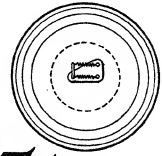

Fig. 4.

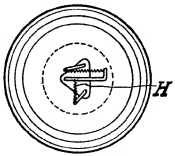

Fig. 6.

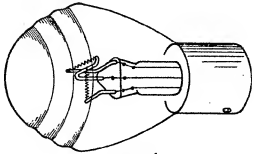

Fig. 5.

Malby & Sons, Photo-Lith.